



90 The State of New Hampshire  
**Department of Environmental Services**

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Michael P. Nolin  
Commissioner



City of Manchester  
Attn: Parks & Recreation Department  
625 Mammoth Road  
Manchester, NH 03104

Re: Black Brook Dam  
Dam #150.07

**ADMINISTRATIVE ORDER**  
**No. WD 06-015**

May 25, 2006

**A. INTRODUCTION**

This Administrative Order is issued by the Department of Environmental Services, Water Division to the City of Manchester, pursuant to RSA 482:12 and RSA 482:87. This order is effective immediately upon issuance.

**B. PARTIES**

1. The Department of Environmental Services, Water Division ("DES"), is a duly-constituted administrative agency of the State of New Hampshire, having its principal office at 29 Hazen Drive, Concord, New Hampshire.
2. The City of Manchester is a duly-constituted municipality of the State of New Hampshire having a mailing address of 625 Mammoth Road, Manchester, NH 03104.

**C. STATEMENTS OF FACTS AND LAW**

1. Pursuant to RSA 482, DES regulates the construction and maintenance of dams so as to meet the stated statutory objectives, including the regulation of water levels, the lessening of flood damage, and the enhancement of public safety. Pursuant to RSA 482:87, the Commissioner of DES has adopted NH Admin. Rules Env-Wr 100-700 to implement this program.
2. According to DES records, the City of Manchester (the "City") owns the dam in Manchester, New Hampshire known as the Black Brook Dam, further identified as Dam #150.07 (the "Dam"). The Dam is located approximately 40 feet upstream of the secondary state highway, NH Route 3A, in Manchester, New Hampshire.
3. RSA 482:12 requires DES to periodically inspect all dams in the state which may pose a menace to public safety, and to take action to ensure that the dam is repaired if the inspection indicates that the public safety so requires.
4. RSA 482:2, V, defines a "dam in disrepair" as a dam which is a menace to public safety and is incapable of safely impounding flood waters to its crest, or is incapable of maintaining a reasonably constant level of waters impounded or which does not contain adequate gates and sluiceways to provide for the holding or controlled discharge of waters impounded.

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5. RSA 482:11-a requires the owner of a dam to maintain and repair the dam so that it does not become a "dam in disrepair."

6. Env-Wr 101.25 defines "menace to public safety" as any dam, the failure of which would threaten life or property. Property, when used in this context, means buildings, structures or other real estate.

7. Env-Wr 101.08 defines "Class B Structure" as a dam with a significant hazard potential the failure of which would result in structural damage to a secondary state highway.

8. The Dam has been classified as a Class B Structure by DES because its failure would overtop a portion of a secondary state highway, Route 3A, and could cause damage to the bridge, which is approximately 40 feet downstream of the dam. There also exists the possibility of minor flooding to the area adjacent to the brook just downstream of the bridge.

9. On November 14, 2001, an inspection of the Dam was conducted in accordance with RSA 482:12 and Env-Wr 302.02 and the following deficiencies were noted by DES staff:

- The upstream face of the waste gate bar rack was clogged with debris;
- The concrete is spalling on the upstream face of the right abutment, toward the waste gate. In addition, there is a significant amount of efflorescence on this abutment; and
- There is seepage at the base of the right masonry spillway abutment wall. The seepage discharge appears to have increased to an estimated 5 gpm since the Dam was last evaluated in 1997. At the time of the 1997 inspection, the water level was approximately 6" lower than it was during the 2001 inspection.
- The operation and maintenance plan is in need of updating.
- The emergency action plan needs to be updated and tested.

10. On September 13, 2002, DES sent a Letter of Deficiency (the "LOD") to the City requesting that the deficiencies in C.9 above be corrected by December 31, 2002.

11. On October 10, 2002 the City responded to the LOD with a request to extend the deadline for repairs until 7/31/03.

12. On December 3, 2002 the City received an engineering estimate from a consulting firm for repair of the right concrete retaining wall. No schedule was proposed for the work.

13. On September 22, 2003 a follow-up inspection was conducted by DES. A sinkhole,

the concrete abutment wall was noted. The City was notified of the inspection results. The follow-up inspection also revealed that work requested in the 9/13/02 LOD had not been addressed.

14. On July 29, 2004 and November 16, 2004 follow-up inspections were conducted by DES. The requested repair work noted in the 9/13/02 LOD and repair of the sinkhole had not been performed.

15. On June 22, 2005 DES conducted an inspection of the Dam with Mr. Chuck DePrima from the Manchester Parks and Recreation Department. The inspection resulted in the following deficiencies being noted by DES staff:

- A sinkhole, approximately 1.5 feet wide by 3.5 feet deep, on the right downstream embankment adjacent to the concrete abutment wall has been present since the fall of 2003. Below this sinkhole a seep has been discharging from the downstream right spillway training wall and noted in past inspections since 1985.
- The concrete on the right upstream retaining wall is cracked and spalling along most of its length.
- The operation and maintenance plan, dated 2002, needs updating.
- The Dam cannot pass the 100-year design storm event with one foot of freeboard and no operations.
- The annual review of the EAP is due.

15. On December 21, 2005 DES issued a letter to the City stating that an administrative order would be issued unless DES was contacted by the City regarding repair or removal of the dam. To date DES does not have a record of any response from the City to this letter.

16. The Dam is in disrepair as defined in RSA 482:2 V.

17. The Dam is a menace to public safety in its current state of disrepair, as a failure of the Dam would damage the downstream secondary state highway, NH Route 3A, in Manchester, New Hampshire.

#### **D. DETERMINATION OF VIOLATIONS**

1. The City of Manchester has violated RSA 482:11-a by failing to maintain the Dam to prevent it from becoming a "dam in disrepair".

#### **E. ORDER**

Based on the above findings, DES hereby orders the City of Manchester as follows:

**By July 30, 2006**

1. Provide evidence to DES that the City has hired a qualified engineering firm to conduct a comprehensive structural evaluation of the dam. The evaluation must include, at a minimum, (a) an investigation into the leakage on the right downstream abutment wall where a sinkhole has developed above the seep on the right downstream embankment; and (b) an investigation into the inadequacy of the dam to pass the design storm event with one foot of freeboard and no operations (Env-Wr 303.11-a-2), which should be based on a detailed hydrologic analysis of the watershed.
2. Stabilize the sinkhole in the right downstream embankment such that it does not worsen during the evaluation period.
3. Update the operation and maintenance plan. Include a monitoring schedule in the Operation and Maintenance Plan. Carefully monitor the seepage at the base of the right masonry spillway abutment wall and notify the DES if there is any increase. Record the seepage discharge rate and corresponding pond level.
4. Repair the spalling concrete on the right upstream retaining wall.
5. Review the Emergency Action Plan ("EAP") as required annually. Provide DES with any revisions or notify DES that the EAP is current.

**By December 31, 2006**

6. Conduct a deep drawdown in the presence of a licensed and qualified engineer in order to conduct a detailed inspection of the Dam in the vicinity of the right abutment. This work is recommended, in part, to further investigate the leakage on the right downstream abutment wall and sinkhole that has developed above the seep on the right downstream embankment.
7. Provide an engineering assessment and recommendations to address items outlined in items E.1 and E.6, as well as all other deficiencies in need of attention.
8. Obtain all necessary permits (e.g. DES Wetlands Bureau and Dam Bureau permits) for the reconstruction of the Dam.

**By December 31, 2007**

9. Complete reconstruction of the Dam as recommended by the engineering investigation.

**If the City elects to remove the Dam, then the City must address Item E.10 through E.12, below:**

10. **By July 30, 2006** notify DES of decision by the City to remove the dam.

11. **By December 31, 2007**, submit design plans, specifications and any required DES permit applications for the removal of the Dam.
12. **By December 31, 2008**, remove the Dam in accordance with the approved plans, specifications, and permit conditions.

Send correspondence, data, reports, and other submissions made in connection with this Administrative Order, **other than appeals**, to DES as follows:

Grace Levergood, P.E., Dam Safety Engineer, Dam Bureau  
DES Water Division  
P.O. Box 95  
Concord, NH 03302-0095  
Phone: (603) 271-1971  
Fax: (603) 271-7894  
E-mail: [glevergood@des.state.nh.us](mailto:glevergood@des.state.nh.us)

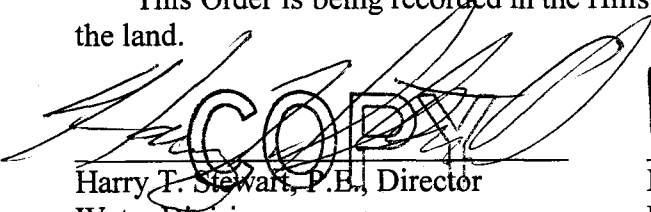
#### F. APPEAL

Any person aggrieved by this Order may appeal the Order to the Water Council by filing an appeal that meets the requirements specified in Env-Wc 200 within 30 days of the date of this Order. Copies of the rule are available from the DES Public Information Center at (603) 271-2975 or at <http://www.des.state.nh.us/desadmin.htm>. Appealing the Order does not automatically relieve the City of the obligation to comply with the Order.

#### G. OTHER PROVISIONS

Please note that RSA 482:89 provides for administrative fines and criminal penalties for the violations noted in this Order. DES will continue to monitor the City's compliance with applicable requirements and will take appropriate action if additional violations are discovered.

This Order is being recorded in the Hillsborough County Registry of Deeds so as to run with the land.

  
Harry T. Stewart, P.E., Director  
Water Division

  
Michael P. Nolin, Commissioner  
Department of Environmental Services

Certified Mail/RRR: 7000 1670 0000 0588 6660  
cc: Gretchen Hamel, DES Legal Unit Administrator  
Public Information Officer, DES PIP Office  
NH AGO